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AGRICULTURAL RESEARCH SERVICE, U. S. DEPARTMENT OF AGRICULTURE

Dairy-Herd-Improvement Letter

ARS-44-158
(Vol. 41, No. 3)

April-May 1965

U.S. ARTIFICIAL INSEMINATION (AI) PARTICIPATION REPORT FOR 1964

An estimated total of 7,747,953 cows were bred artificially in the U.S. in 1964. Dairy to dairy and beef to beef inseminations were 6,165,599 and 464,959 cows, respectively. Of the 7,282,994 dairy cow total, 15.3 percent, or 1,117,395, represented inseminations by beef bulls.

Because of incomplete reporting, portions of the tabular material presented in this report are estimations based on averages from complete reports. The report includes two strictly beef operations and a report of services performed for individual ranchers who have their own beef bulls.

Table 1 shows that 41.4 percent of the nation's cows and heifers which were bred for dairy purposes were bred artificially, of which an estimated 10.6 percent were registered. The top 10 States in number and percentage of dairy cows bred artificially by dairy and beef bulls are as follows:

<u>Rank</u>	<u>State</u>	<u>No. of dairy cows bred artificially</u>	<u>State</u>	<u>Pct. of dairy cows bred artificially</u>
1	Wis.	1,392,274	Pa.	64.1
2	N. Y.	707,237	Conn.	60.3
3	Minn.	644,047	Maine	59.4
4	Pa.	583,690	Wis.	58.5
5	Calif.	378,892	Mass.	57.8

Issued June 1965

<u>Rank</u>	<u>State</u>	<u>No. of dairy cows bred artificially</u>	<u>State</u>	<u>Pct. of dairy cows bred artificially</u>
6	Mich.	371,683	Wash.	55.7
7	Ohio	331,363	Fla.	55.3
8	Iowa	279,122	Mich.	55.2
9	Ill.	236,965	N. J.	55.1
10	Ind.	144,886	N. H.	53.8

Table 2 summarizes the AI program since 1939.

Table 3 shows that an estimated 654,311 herds received AI service in 1964. A total of 1,867 dairy and 449 beef bulls were reported in service during 1964. Also reported were inseminations to 2,731 swine and 1,845 goats.

The accompanying map illustrates the AI density in the United States in 1964.

TABLE 1.--Status of artificial breeding in the United States, January 1, 1965

State	Studs 1/	Cows bred during 1964--				All U.S. milk cows 3/	Dairy cows bred as pct. of all milk cows 4/
		to dairy sires		to beef sires			
		Reg. dairy 2/	Total dairy	Dairy cows	Beef cows		
	Number	Number	Number	Number	Number	Thousands	Percent
Alabama-----	0	4,647	39,071	6,686	2,809	220	20.8
Alaska-----	1	88	1,202	40	--	3	41.4
Arizona-----	0	1,202	14,383	2,325	270	57	29.3
Arkansas-----	0	2,078	18,626	4,030	3,511	188	12.1
California-----	5	28,400	340,753	38,139	6,163	867	43.7
Colorado-----	5/2	5,007	39,767	3,545	6/7,406	118	36.7
Connecticut-----	1	6,583	42,609	7,422	1,406	83	60.3
Delaware-----	0	1,904	6,571	1,368	163	25	31.8
Florida-----	0	1,580	92,738	8,923	5,534	184	55.3
Georgia-----	0	5,429	42,589	7,560	2,748	197	25.5
Hawaii-----	0	420	3,306	597	185	15	26.0
Idaho-----	0	5,023	73,201	11,239	6/8,199	204	41.4
Illinois-----	3	33,956	197,242	39,723	20,174	517	45.8
Indiana-----	1	16,004	123,329	21,557	9,979	419	34.6
Iowa-----	1	18,181	227,230	51,892	29,178	835	33.4
Kansas-----	1	8,307	71,065	10,129	11,268	311	26.1
Kentucky-----	1	14,575	97,594	25,458	8,964	501	24.6
Louisiana-----	1	7,293	48,923	15,176	5,320	245	26.2
Maine-----	1	4,997	49,186	6,624	535	94	59.4
Maryland-----	1	11,751	78,301	10,760	1,460	219	40.7
Massachusetts-----	0	6,415	43,167	7,678	1,089	88	57.8
Michigan-----	1	36,332	322,761	48,922	6,024	673	55.2
Minnesota-----	2	34,458	539,117	104,930	10,020	1,407	45.8
Mississippi-----	1	4,524	37,187	8,030	3,046	303	14.9
Missouri-----	0	11,763	93,200	35,816	10,890	608	21.2
Montana-----	0	604	11,496	793	6/21,285	73	16.8
Nebraska-----	0	5,604	47,822	9,276	6/30,405	301	19.0
Nevada-----	0	247	2,960	500	6/859	17	20.4
New Hampshire-----	1	4,291	23,061	4,356	119	51	53.8
New Jersey-----	0	6,445	56,633	8,943	521	119	55.1
New Mexico-----	0	2,322	17,276	2,143	2,233	43	45.2
New York-----	1	119,350	613,496	93,741	3,785	1,325	53.4
North Carolina-----	1	9,924	70,269	11,971	5,033	261	31.5
North Dakota-----	0	1,461	26,094	4,274	4,590	262	11.6
Ohio-----	2	45,510	273,397	57,966	21,225	636	52.1
Oklahoma-----	0	2,670	25,728	2,097	3,892	212	13.1
Oregon-----	0	4,734	52,174	14,841	10,188	150	44.7
Pennsylvania-----	3	128,701	486,577	97,113	8,838	911	64.1
Puerto Rico-----	1	6,226	50,802	4,245	--	--	--
Rhode Island-----	0	594	4,388	740	91	12	42.7
South Carolina-----	0	3,938	25,604	3,167	1,011	98	29.4
South Dakota-----	0	2,295	26,907	3,690	6/26,487	256	12.0
Tennessee-----	3	12,894	85,575	12,030	13,041	495	19.7
Texas-----	1	4,580	74,368	10,763	17,517	523	16.3
Utah-----	1	2,475	41,966	6,047	1,870	99	48.5
Vermont-----	0	18,096	109,186	20,488	3,231	266	48.7
Virginia-----	1	15,162	92,917	13,693	4,188	327	32.6
Washington-----	2	11,066	110,641	29,703	18,185	252	55.7
West Virginia-----	0	1,395	18,467	2,407	2,908	117	17.8
Wisconsin-----	6	88,921	1,169,179	223,095	15,216	2,378	58.5
Wyoming-----	0	362	5,498	744	6/10,062	28	22.3
Armour and Co. 7/-	-	--	--	--	30,318	--	--
Reported by NAAB 7/	-	--	--	--	51,520	--	--
United States-----	46	770,784	6,165,599	1,117,395	464,959	17,593	41.4

- 1/ States without studs purchase semen from studs in other States. See table 3 for location of studs.
2/ Data for registered dairy cows may be all or partially estimated when incomplete report was given.
3/ Preliminary figures for number of cows and heifers two years old and over kept for milk; estimated by the Statistical Reporting Service.
4/ Percentage of all dairy cows bred included in the artificial insemination program.
5/ One all-beef stud in Colorado serviced 30,000 beef cows in 6 States; see table 3, footnote 2.
6/ Includes cows serviced by an all-beef stud in Colorado; see table 3, footnote 2 for breakdown.
7/ These figures are included in U.S. totals, but not apportioned by States. For report from NAAB, see table 3, footnote 3 for breakdown.

TABLE 2.--Status of artificial-breeding program in the United States (1939-1965, inclusive)

Year	Studs		Sires in service			Average per stud	Herds 1/	Dairy cows bred to dairy bulls		Beef cows bred to beef bulls	Total cattle bred	Cows bred per sire
			Dairy	Beef	Total			Number	Number			
	Number	Number	Number	Number	Number		Number	Number	Number	Number	Number	Number
1939	7	--	--	--	33	4.7	646	--	--	--	7,359	228
1940	25	--	--	--	138	5.5	2,971	--	--	--	33,977	246
1941	35	--	--	--	237	6.8	5,997	--	--	--	70,751	299
1942	46	--	--	--	412	9.0	12,118	--	--	--	112,788	274
1943	59	--	--	--	574	9.7	23,448	--	--	--	182,524	318
1944	56	--	--	--	657	11.7	28,627	--	--	--	218,070	332
1945	67	--	--	--	729	10.9	43,998	--	--	--	360,732	495
1946	78	--	--	--	900	11.5	73,293	--	--	--	537,376	597
1947	84	--	--	--	1,453	17.3	140,571	--	--	--	1,184,168	815
1948	91	--	--	--	1,745	19.2	224,493	--	--	--	1,713,581	982
1949	90	--	--	--	1,940	21.6	316,177	--	--	--	2,091,175	1,078
1950	97	--	--	--	2,104	21.7	409,300	--	--	--	2,619,555	1,245
1951	94	--	--	--	2,187	23.3	548,300	--	--	--	3,509,573	1,605
1952	94	--	--	--	2,324	24.7	671,100	--	--	--	4,295,243	1,848
1953	96	--	--	--	2,598	27.1	755,000	--	--	--	4,845,222	1,865
1954	93	--	--	--	2,661	28.6	805,000	--	--	--	5,155,240	1,937
1955	79	--	--	--	2,450	31.0	845,900	--	--	--	5,413,874	2,210
1956	79	--	--	--	2,553	32.3	900,400	--	--	--	5,762,656	2,257
1957	75	--	--	--	2,651	35.3	946,000	--	--	--	6,055,982	2,284
1958	71	--	--	--	2,676	37.7	975,372	--	--	--	6,645,568	2,483
1959	64	--	--	--	2,460	38.4	930,059	--	--	--	6,932,294	2,816
1960	62	--	--	--	2,544	41.0	910,000	--	--	--	7,144,679	2,808
1961	56	--	--	--	2,486	44.4	863,781	7,047,148	2/435,592	--	7,482,740	3,010
1962	56	2,036	420	--	2,456	43.9	862,150	6,837,681	2/911,006	--	7,748,687	3,155
1963	51	2,158	401	--	2,559	50.2	621,141	6,468,545	969,748	235,289	7,673,582	2,999
1964	3/50	2,140	398	--	2,538	50.8	654,311	6,165,599	1,117,395	464,959	7,747,953	3,053
1965	4/46	1,867	449	--	2,316	50.3	--	--	--	--	--	--

1/ Prior to 1963, number of herds largely reflected membership rather than those actually serviced.

2/ Probably includes some beef to beef inseminations.

3/ Not shown are inseminations to 2,731 hogs and 1,845 goats.

4/ Includes one all-beef stud.

TABLE 3.--Artificial-breeding organization bull studs, January 1, 1965

State, name, and location of studs	Herds serviced	Cows bred 1964			Total	Number and breed of bulls used					Insemina- tions of--					
		Dairy total	Dairy to beef	Beef to beef		Ayr- shire	Brown Swiss	Guern- sey	Hol- stein	Jer- sey	Red Dane	Short- horn	Beef	Total	Swine	Goats
ALASKA Matanuska Valley Breeders Assn., Palmer-----	50	901	--	--	901	--	--	--	4	--	1	--	--	5	--	--
CALIFORNIA Adohr Farms Inseminating Service, P.O. Box 88, Camarillo 93110-----	40	7,100	--	--	7,100	--	--	12	12	--	--	--	--	24	--	--
Calif. Dairy Breeders, Inc., P.O.Box 188,Davis-Excelsior Breeding Service, 7401 Adams, Rt. 1, Corona-----	1/1,705	48,229	2,300	700	51,229	1	--	5	9	4	--	2	4	25	--	1
Jessup Breeders, 5471 San Fernando Rd., W., Glendale 91203-----	126	25,924	--	--	25,924	--	--	--	21	--	--	--	--	21	--	--
Pacific Breeders Co-op., Inc., 1464 Middle Two Rock Rd., Petaluma-----	1,143	105,255	9,690	4,754	119,699	--	2	7	25	4	--	--	3	41	--	973
COLORADO Colorado State Univ.,ABS, 809 City Park Avenue, Fort Collins-----	450	29,355	823	163	30,341	--	--	3	7	5	--	--	1	16	--	--
CONNECTICUT New England Selective Breeding Assn., Inc., Newton Rd., Woodbridge--	1/1,172	10,318	677	3,073	14,068	--	--	--	1	--	--	1	5	7	--	2
ILLINOIS Curtiss Breeding Service, Inc., Cary-----	6,538	96,250	15,507	2,936	114,693	1	4	9	18	10	--	--	6	48	--	19
Northern Ill. Breeding Co-op., Rt. 1,Hampshire-Southern Ill. Breeding Assn., Breese-----	1/87,216	850,400	153,195	43,000	1,046,595	3	4	15	69	12	--	3	44	150	--	--
INDIANA John A. Newman & Sons, Rt. 2, Box 21, Culver---	8,000	79,645	12,823	6,836	99,304	--	5	5	23	--	--	1	1	35	710	5
IOWA Eastern Iowa Breeders, Hiawatha-----	10,024	42,374	13,836	10,902	67,112	--	--	5	15	2	--	3	10	35	--	9
KANSAS Kansas ABS Unit,Anderson Hall, Kansas State Univ., Manhattan-----	25	400	--	--	400	--	--	--	6	--	--	--	--	6	--	--
KANSAS Kansas ABS Unit,Anderson Hall, Kansas State Univ., Manhattan-----	25,355	102,750	26,670	9,662	139,082	--	5	7	20	1	--	2	19	54	--	6
KANSAS Kansas ABS Unit,Anderson Hall, Kansas State Univ., Manhattan-----	7,000	33,916	4,701	4,630	43,247	4	2	1	19	2	--	4	14	46	--	10

1/ Data may be all or partially estimated when incomplete report was given.

TABLE 3.--Artificial-breeding organization bull studs, January 1, 1965 (con't.)

State, name, and location of studs	Herds serviced	Cows bred 1964			Total	Number and breed of bulls used					Insemina- tions of--				
		Dairy total	Dairy to beef	Beef to beef		Ayr- shire	Brown Swiss	Guern- sey	Hol- stein	Jer- sey	Red Dane	Short- horn	Beef Total	Swine	Goats
KENTUCKY															
Ky. Artificial Breeding Assn., 1930 Herr Lane, Rt. 6, Louisville-----	12,670	67,069	19,810	7,145	94,024	--	5	5	16	9	-	--	8	43	-- 3
LOUISIANA															
La. Animal Breeders Coop., Inc., Box B. D., LSU, Baton Rouge 70803--	5,876	47,091	14,904	5,182	67,177	--	--	6	8	7	-	--	11	32	-- 6
MAINE															
Maine Breeding Coop., Inc., RFD 1, Augusta 04331-----	4,300	42,813	5,187	514	48,514	1	--	12	14	13	-	3	2	45	-- 2
MARYLAND															
Maryland-West Virginia Bull Stud, Inc., P.O.Box 555, Frederick-----	5,475	78,772	9,666	3,550	91,988	5	4	8	24	6	-	--	8	55	-- 23
MICHIGAN															
Mich. Animal Breeders Coop., Inc., P. O. Box 511, East Lansing-----	19,784	240,706	36,444	3,000	280,150	--	3	13	34	8	4	4	12	78	-- 12
MINNESOTA															
Midwest Genes, Inc., Box 111, Anoka 55303-----	1/ 53,941	321,927	93,164	35,977	451,068	--	7	16	80	3	-	8	46	160	-- 2
Minn. Valley Breeders Assn., New Prague-----	48,408	249,021	54,368	3,098	306,487	2	3	9	49	1	-	3	23	90	-- --
MISSISSIPPI															
Mississippi ABC, Box 354, State College-----	3,100	17,124	3,600	600	21,324	--	--	4	4	6	-	--	3	17	-- 4
NEW HAMPSHIRE															
New Hampshire-Vermont Breeding Assn., P. O. Box 350, Concord-----	4,554	42,186	1/ 8,484	1/ 1,946	52,616	2	--	10	12	11	-	--	4	39	-- --
NEW YORK															
New York ABC, Inc., P. O. Box 528, Ithaca 14851--	28,802	489,000	66,583	2,058	557,641	11	10	24	104	27	-	--	13	189	1 --
NORTH CAROLINA															
N.C. Inst. Breeding Assn., Dept. of Animal Science, N.C. State Univ., Raleigh	10	1,085	--	--	1,085	--	--	--	17	--	-	--	--	17	-- --
OHIO															
Central Ohio Breeding Assn., 1224 Alton-Darby Rd., Columbus 43204----	1/ 29,916	198,588	36,293	28,971	263,852	7	3	14	41	7	-	--	14	86	-- 667
NOBA, Inc., P. O. Box 1015, Tiffin-----	1/ 17,563	163,438	32,424	7,709	203,571	--	3	11	30	14	-	1	12	71	-- 16

1/ Data may be all or partially estimated when incomplete report was given.

PENNSYLVANIA														
Atlantic Breeders Coop., P.O.Box 254, Lancaster--	20,235	209,405	44,642	4,464	258,511	4	4	13	32	6	--	--	59	-- 43
Northeastern Breeders Assn., Inc., Box 90,	17,072	193,931	34,955	1,811	230,697	7	4	32	71	15	--	11	140	-- 7
Tunkhannock----- Zimmerman Dairy Farm, Rt. 2, Lehighton-----	1/150	1,800	--	--	1,800	--	--	--	4	--	--	--	4	-- --
PUERTO RICO														
Puerto Rico Artificial Breeding Assn., P. O. Box 958, Dorado-----	943	25,950	--	--	25,950	--	4	--	11	--	--	--	15	-- --
TENNESSEE														
East Tenn. ABA, Rt. 10, Tipton Station Road, Knoxville----- Tenn. Artificial Breeding Assn., Rt. 2, Granny White Pike, Brentwood---	4,600	25,196	6,935	3,184	35,315	2	1	5	10	8	--	1	8	-- 35
West Tenn. Artificial Breeding Assn., Box 38, Yorkville-----	6,100	28,860	1,285	4,349	34,494	--	3	3	6	5	--	--	4	-- 21
	2,972	7,128	609	2,997	10,734	--	--	--	5	5	--	--	6	-- 16
TEXAS														
Texas A & M Dairy Breed- ing Ctr., Dairy Science Dept., College Station--	1	309	--	--	309	--	--	--	1	--	--	--	11	-- 12
UTAH														
Cache Valley Breeding Assn., 1950 N. Main, Logan 84321-----	8,103	59,745	7,687	13,125	80,557	3	3	3	25	1	--	5	19	-- 59
VIRGINIA														
Va. ABA, Inc., P. O. Box 391, Rocky Mount-----	7,555	60,557	8,028	2,291	70,876	4	--	7	15	5	--	--	4	-- 35
WASHINGTON														
All West Breeders, P. O. Box 197, Burlington 98233----- W. De Jong's Supreme Bull Service, Rt. 1, Monroe--	20,379	92,030	32,912	18,827	143,769	--	1	11	17	15	--	1	--	-- 45
	60	1,600	250	30	1,880	--	--	--	4	--	--	--	1	-- 5

1/ Data may be all or partially estimated when incomplete report was given.

TABLE 3.--Artificial breeding organization bull studs, January 1, 1965 (con't.)

State, name, and location of studs	Herds serviced	Cows bred 1964			Total	Number and breed of bulls used				Insemina- tions of--					
		Dairy total	Dairy to beef	Beef to beef		Ayr- shire	Brown Swiss	Hol- stein	Jer- sey	Red Dane	Short- horn	Beef	Total	Swine	Goats
WISCONSIN															
American Breeders Service, Inc., P. O. Box 3143, Madison-----	1/121,485	1/1,155,591	1/199,657	102,578	1,457,826	3	5	7	68	10	-	2	48	143	--
Associated Breeding Service, Lena-----	1,191	12,452	3,564	225	16,241	--	--	3	12	--	-	--	5	20	--
Badger Breeders Cooperative, P. O. Box 469, Shawano-----	21,516	346,100	57,825	4,281	408,206	--	6	13	29	2	-	--	10	60	284
East Central Breeders Assn., Coop., P. O. Box 191, Waupun 53963-----	4,856	72,990	16,800	400	90,190	--	5	4	27	--	-	--	5	41	--
Piper Bros. Farms, Inc., Rt. 4, Watertown-----	1/9,726	104,976	9,628	2,107	116,711	--	2	3	29	--	-	--	8	42	--
Tri State Breeders Coop., Westby-----	23,994	375,342	71,469	6,046	452,857	--	6	14	53	7	-	3	16	99	1,736
ALL-BEEF STUDS OR REPORTS															
International Beef Breeders, Box 29007, Denver, Colo. 2/-----	130	--	--	2/30,000	2/30,000	--	--	--	--	--	-	--	30	30	--
Armour and Co. Beef Cattle Improvement Research, P. O. Box 408, Morris, Ill. 60450-----	--	--	--	30,318	30,318	--	--	--	--	--	-	--	--	--	--
Report from National Assn. of Animal Breeders, P.O. Box 328, Columbia, Mo. 65202 3/-----	--	--	--	51,520	3/51,520	--	--	--	--	--	-	--	--	--	--
UNITED STATES-----															
	654,311	6,165,599	1,117,395	464,959	7,747,953	60	104	319	1,101	231	5	47	449	2,316	2,731 1,845

1/ Data may be all or partially estimated when incomplete report was given.

2/ Beef to beef inseminations were reported for: Colorado, 1,450 cows; Idaho, 2,300 cows; Montana, 2,000 cows; Nebraska, 6,900 cows; Nevada, 200 cows; South Dakota, 16,100 cows; Wyoming, 1,050 cows.

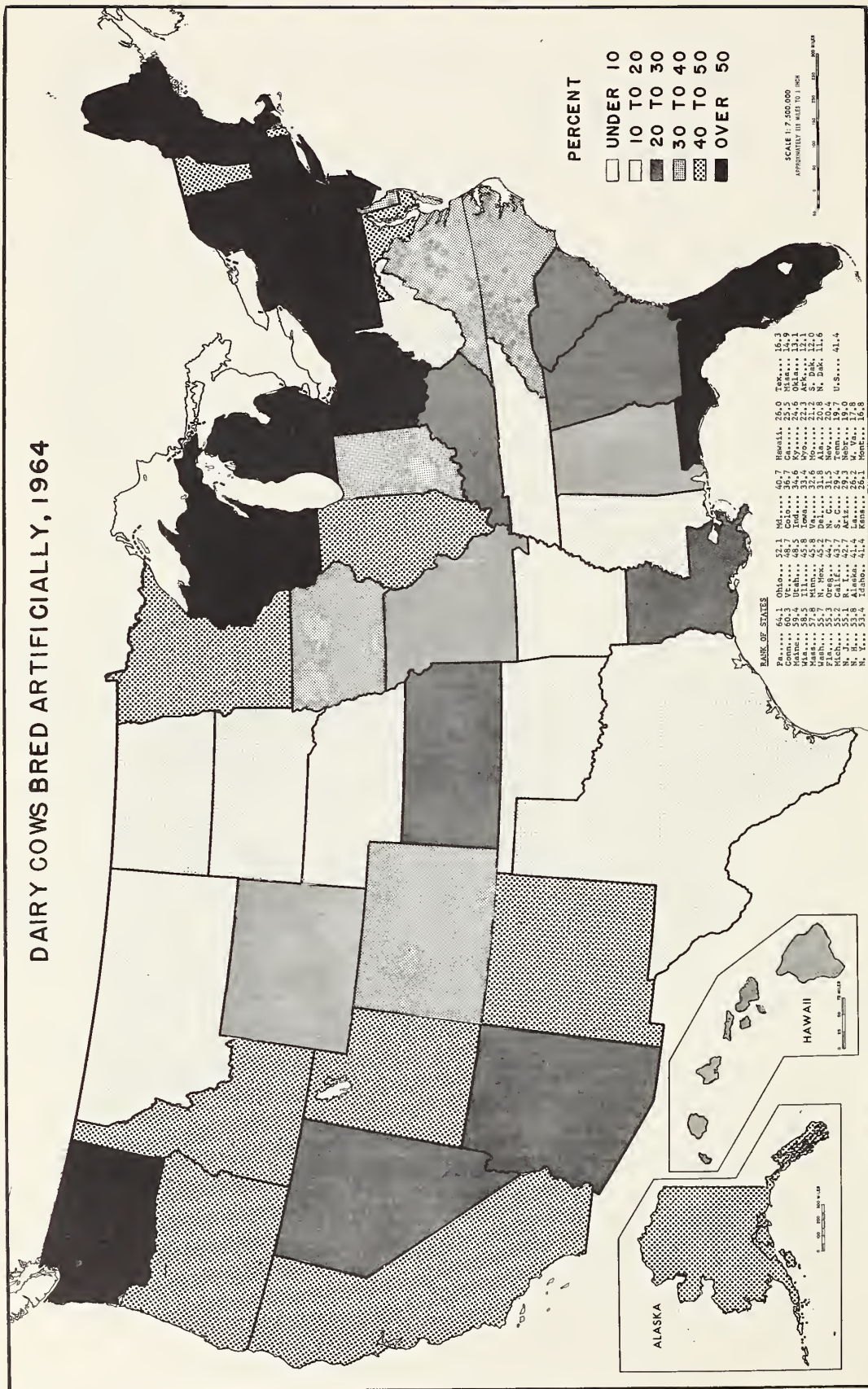
3/ Services performed for individual ranchers who have their own beef bulls. By studs: Louisiana Animal Breeders Coop., 1,700; California Dairy Breeders, 240; Eastern Iowa Breeders, 1,000; Jessup Breeders, 4,500; International Beef Breeders, 20,000; Kansas ABS Unit, 1,000; Maryland-West Virginia Bull Stud, 2,000; New York ABC, 300; Consolidated Breeders Coop., 400; Iowa Breeders Coop., 2,500; M. F. A. Breeding Service, 10,000; Colorado State University, 7,880.

Total: 51,520 cows.

EXTENSION SERVICE OFFICIALS WORKING WITH DAIRY BREEDING ORGANIZATIONS IN THE STATES

Ala-----R. Sam Jones, Jr., Dairy Science Department, Auburn University, Auburn 36830.
 Alaska----W. J. Sweetman, Research Staff Department, University of Alaska, Palmer.
 Ariz-----W. R. Van Sant, Department of Dairy Science, University of Arizona, Tucson 85721.
 Ark-----Lantis Ratcliff, Animal Industry & Veterinary Science, University of Arkansas,
 Little Rock 72203.
 Calif-----R. D. Appleman, Extension Dairyman, University of California, Davis 95616.
 Colo-----D. C. Jordan, Animal Science Department, Colorado State University, Fort Collins.
 Conn-----R. H. Benson, Animal Industries Department, University of Connecticut,
 Storrs 06268.
 Del-----W. R. Hesselstine, Animal & Poultry Science Department, University of Delaware,
 Newark 19711.
 Fla-----C. W. Reaves, Extension Dairy Section, University of Florida, Gainesville 32603.
 Ga-----J. N. Maddux, Animal Industry Division, University of Georgia, Athens.
 Hawaii----H. R. Donoho, Animal Science Dept., 1825 Edmondson Road, University of Hawaii, .
 Honolulu 96822.
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